Statement of Basis
Phifer Incorporated
413-0012

Major Source of Volatile Organic Compounds,
Hazardous Air Pollutants, and Particulate Matter

Introduction

This proposed Title V Major Source Operating Permit will be issued under the provisions of ADEM Admin. Code R. 335-3-16. The above named applicant has requested authorization to perform the work or operate the facility shown on the application and drawings, plans and other documents attached hereto or on file with the Air Division of the Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit. Phifer manufactures window screens and other wire and woven products, and has a standard industrial classification code of 3496. Compliance Assurance Monitoring does not apply to this facility because no unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source.

On August 11, 2016, the Department received an application to renew the Major Source Operating Permit for the Phifer facility in Tuscaloosa. The facility manufactures wire, woven insect screen, coated fibers, and woven fabric. The regulated criteria air contaminants emitted into the atmosphere by the coating processes are volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) as listed in Appendix G of the ADEM Air Regulations, which come from the coatings and solvents used. Also, HAPS are emitted from the halogenated solvent degreasing machines. The curing ovens and tenter ovens emit VOCs, HAPS, particulate matter (PM) and nitrogen oxides (NOx). Several changes were made to the draft MSOP because of changes made at Phifer. Paint tower 2 and tenter 4 were removed from the facility and the permit. CECO filters replaced the Electro Static Precipitators on tenter 2, yarn coating lines 11, 12, and 13. Yarn coating line 14 and tenter 8 were added to the permit. A third oven was added to yarn coating line 3. The existing emergency generators were also added to the permit.

Operations

The yarn is coated, oven dried and rewound on each yarn coating line. The yarn is then conveyed to a weaving department where the yarns are woven to form fabrics which are used as webbing, awnings and other applications. The

fabrics are then conveyed to tenter ovens where they are further dried and bonded from the heat of the oven. After the products are coated and dried they are packaged for shipment. The coating lines constructed after April 30, 1987 are subject to New Source Performance Standard (NSPS) 40CFR60 Subpart VVV – Standards of Performance for Polymeric Coating of Supporting Substrates Facilities.

The wire is produced in the rod mill. Most of the wire is woven into insect screening. This material is cleaned in a soap and water bath. The wire mesh is then coated by electrodeposition, powder coating or by painting. The remainder of the wire is produced for specialty markets. The specialty market wire is cleaned by passing through a cold solvent degreaser. The solvent degreaser is subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP) 40CFR63 Subpart T – National Emission Standards for Halogenated Solvent Cleaning. After the products are coated and dried they are packaged for shipment.

Emissions

Potential emissions of VOCs exceed the threshold of 250 tons per year and potential emissions of HAPs exceed 10/25 tons per year. Phifer has PSD synthetic minor limits of 39 tons of VOC emissions per year on each of the Yarn Coating lines which have been installed in the plant since April 30, 1987. This limit applies to yarn coating lines 1, 2, 3, 10, 11, 12, 13, and 14. Units built prior to April 30, 1987 do not have any VOC limitations, and are not subject to 40 CFR 60 subpart VVV, the Standards of Performance for Polymeric Coating of Supporting Substrates Facilities. Yarn coating lines 4, 5, 6, 7, 8, and 9 do not have VOC limits.

The coating lines which are subject to 40 CFR 60 subpart VVV all use less than 95 Mg (104.5 tons) of volatile organic compounds in any 12 consecutive month period. These units are subject to 60.744(b), 60.747(b), and 60.747(c), which require semiannual estimates of use and recording and reporting of actual use. Since these units have a 39 TPY emission limitation and submit quarterly reports, the requirements of the NSPS are met.

The tenter ovens, paint towers, powder coaters, electrodeposition coater, and yarn coaters are subject to the general provisos for particulate matter and visible emissions. All dryers and ovens are natural gas fired with propane backup.

VOC emissions can occur from the tenters and the yarn coating lines. However, since there is no way of tracking the yarn from a particular coater to

a specific tenter, all VOCs from the coating are applied to a coater. The usage at each coater is recorded. The VOC emissions are based on testing results and material balance. The formula for calculating the emissions is contained in the Unit Specific Provisos.

Emissions from the tenters and yarn coating lines are controlled by wet scrubbers and modular type electrostatic precipitators (ESP). The scrubbers also cool the exhaust prior to its entrance into the ESPs.

The solvent degreasers are cold (room temperature) continuous degreasers. The degreaser is a closed box that the wire passes through. The initial notification is the only notification required by the NESHAP for a cold machine. The amount of solvent used will be determined at least monthly and recorded for fee purposes.

The following is a list of all of the facility's sources (individual emissions units) which will be part of the facility's Title V Major Source Operating Permit:

Permit Unit No.	Description of Unit
001	Powder Coater #1
002	Powder Coater #2
003	Paint Tower #1
006	E Coater
007	Yarn Coating Line Number 1
008	Yarn Coating Line Number 2
009	Yarn Coating Line Number 3
010	Yarn Coating Line Number 4
011	Yarn Coating Line Number 5
012	Yarn Coating Line Number 6
013	Yarn Coating Line Number 7
014	Yarn Coating Line Number 8
015	Yarn Coating Line Number 9
016	Yarn Coating Line Number 10
035	Yarn Coating Line Number 11
018	Yarn Coating Line Number 12
036	Yarn Coating Line Number 13
031	Yarn Coating Line Number 14
019	Tenter Number 1
020	Tenter Number 2
021	Tenter Number 3
023	Tenter Number 5
037	Tenter Number 6

030	Tenter Number 7
032	Tenter Number 8
025	Solvent Cleaning Machine 7900A
026	Solvent Cleaning Machine 7900B
027	Solvent Cleaning Machine 7900C

Monitoring of Emissions

Phifer Wire will maintain records of monthly coating usage and coating analysis to show compliance with their Synthetic Minor PSD limits. These records will be submitted quarterly.

Monitoring for particulate will be accomplished by monitoring the working status of the ESPs on each line. Daily inspections of the ESPs will be made and the number of working cells determined. If greater than 20 % of the cells are not working or if 2 or more cells horizontally are not working repairs shall be made immediately. Records of the inspections will be maintained. Weekly visible emissions monitoring will be made for the exhaust stacks and recorded. If a problem is noted the required repairs will be made and a new observation made. The pressure differential will be recorded weekly on units with filters. The temperature of the regenerative thermal oxidizer on tenter 8 will be monitored and recorded continuously.

Permitting Fees

Title V major sources are subject to operating permit fees which charge the facility a yearly amount based on the actual emission rate of pollutants for the previous year.

Recommendations

I recommend that Major Source Operating Permit Number 413-0012 be renewed. The proposed monitoring should be sufficient to demonstrate compliance status.

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Hal Brock
Industrial Chemicals Section
Chemical Branch
Air Division

April 5, 2018